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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,151	02/17/2004	Xiao-Qi Zhou	200310352-1	6042

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EXAMINER

JACKSON, MONIQUE R

ART UNIT PAPER NUMBER

1794

NOTIFICATION DATE DELIVERY MODE

12/14/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/781,151

Applicant(s)

ZHOU ET AL.

Examiner

Monique R. Jackson

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114.

Applicant's submission filed on 10/11/07 has been entered.

Claim Rejections - 35 USC § 103

2. Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malhotra (USPN 5,709,976.) Malhotra teaches a coated paper suitable for both ink jet printing processes and electrostatic printing process such as electrophotography including color copiers, wherein the coated paper comprises (a) a substrate; (b) a hydrophobic barrier layer present on both sides and containing a water-insoluble binder and water or alcohol soluble anticurling agents ("*base coating layers*"); and (c) image receiving coatings situated on the top of both hydrophobic barrier layers (Abstract; Col. 4, lines 1-27, 37-41, and 51-61; Col. 28, lines 1-4.) Malhotra teaches that the substrate is preferably a paper substrate made of sized blends of wood kraft fibers that can be internally reinforced with a synthetic resin (Col. 5, line 44-Col. 6, line 15.) Both sides of the substrate are coated with hydrophobic barrier layers having a typical thickness from about 0.1 to about 10 microns, wherein the barrier layers comprise a suitable polymer hydrophobic component such as those listed in Col. 8, including a polyurethane or polysiloxane; a suitable anticurling agent such as those in Col. 10, line 45-Col. 11, line 44; and may further

include a monomeric molecule of silane units such as those listed at Col. 8, line 60-Col. 9, line 42, and other suitable hydrophobic components as listed at Col. 9, line 43-Col. 10, line 44. One having ordinary skill in the art at the time of the invention would have been motivated to utilize any of these materials taught for the barrier layers wherein several of the components disclosed by Malhotra would read upon the broadly claimed "discharge control agent", particularly those found in Col. 10. Malhotra teaches that the receiving layers have a typical thickness from 1 to about 25 microns, and include (1) a polymeric binder, (2) a dye fixative, (3) a filler or pigment, (4) a lightfastness inducing agent, and (5) a biocide; or in the case of toner receiving layers (1) a polymeric binder, (2) an antistatic agent, (3) a lightfastness inducing agent, (4) a filler or pigment, and (5) an optional biocide (Abstract; Col. 6, line 61-Col. 7, line 23.) Malhotra teaches that a preferred composition range for the toner receiving coating is about 10 to about 35 weight parts binder, about 3 to about 5 weight parts antistatic agent, about 0.4 to about 8 weight parts lightfastness inducing agent, about 86 to about 50 weight parts filler, and about 0.6 to about 2 weight parts biocide; based on 100 parts total (Col. 7, line 63-Col. 8, line 6.) Malhotra teaches that suitable dye fixatives and antistatic agents including quaternary acrylic copolymer latexes, monoammonium compounds, phosphonium compounds, and sulfosuccinates and sulfosuccinamates as antistatic components (Col. 16, line 65-Col. 20, line 50.) Malhotra further teaches that the filler components include hollow microspheres, solid microspheres, inorganic pigments such as calcium carbonate, clay, zinc oxide, titanium dioxide, hydrated alumina, and barium sulfate as well as fluorescent pigments, and mixtures of two or more (Col. 24, line 26-Col. 25, line 31.)

Hence, Malhotra teaches a media sheet for color electrophotographic printing comprising a) base stock, b) base coating layers coated on both sides of the base stock and comprising binder, anticurling agents, and components that read upon the claimed "discharge control agent" and c) receiving layers, different from the base coating layers, coated directly on the base coating layers, wherein the receiving layers include binder, antistatic agents, and fillers or pigments including hollow particle pigments, both inorganic or polymeric, as well as inorganic pigments as instantly claimed. Though Malhotra does not specifically teach that the base coating layers also comprise inorganic pigments as in the sized paper or the receiving layers, one having ordinary skill in the art at the time of the invention would have been motivated to include conventional additives such as the disclosed inorganic pigments into the base layers as well to provide desired color properties to the base layer or to improve the overall color of the coated paper. With respect to the antistatic agent or discharge control agent, Malhotra does not teach that the agent is a polyelectrolyte or sulfonated polystyrene as instantly claimed. However, one having ordinary skill in the art at the time of the invention would have been motivated to utilize any conventional antistatic or discharge control agent, wherein the claimed sodium salt of a highly sulfonated polystyrene is a known discharge control agent that provides improvements in terms of feeding properties when the coated paper is utilized in a friction-feed printing process as discussed previously. Hence, it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a discharge control agent, such as a sodium salt of a highly-sulfonated polystyrene, in the paper coating compositions of the invention taught by Malhotra, in a sufficient amount and molecular weight to provide the desired conductive properties to reduce the electrostatic charges generated by friction in printer or photocopier paper

feeds, as is known in the art. Further, one having ordinary skill in the art would have been motivated to utilize routine experimentation to determine the optimum content of each component, the coating thickness or coating weight, and optimum pigment particle size and particle size distribution to utilize in the coating layers based on the desired color, coating and matting properties, and particular end use, wherein ranges as instantly claimed are typical in the art. With regards to Claims 3 and 4, though Malhotra teaches that the substrate is preferably paper made from woody fibers internally reinforced with synthetic resin, it is well known in the art that plastic films are suitable synthetic materials equivalent to woody paper substrates for use in producing coated printing medium and one having ordinary skill in the art at the time of the invention would have been motivated to utilize polymer films as the base and/or determine a suitable base material and internal bond strength for a particular end use of the printing medium.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 10/11/07 has been considered by the examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508. The examiner can normally be reached on Mondays-Thursdays, 10:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Monique R. Jackson
Primary Examiner
Technology Center 1700
December 10, 2007